



Version with markings to show changes made

In the claims:

Claims 1, 4-12, 14-25, 27-29, and 31-38 have been amended as follows:

1. (Once Amended) A method for characterizing a vehicle's fuel efficiency comprising [the steps of]:

generating parameter-related data from the vehicle that [comprises] describes at least one of [the following] a plurality of vehicle parameters including: vehicle speed, fuel level, engine speed, load, mass air flow, manifold air pressure, odometer reading;

transferring the parameter-related data to a wireless appliance comprising[:

i) a microprocessor, and

ii)] a wireless transmitter [in electrical contact with the microprocessor];

transmitting [a] the parameter-related data [packet comprising the data and/or properties calculated from the data] with the wireless transmitter over an airlink to a host computer system; and

analyzing the transmitted parameter-related data with the host computer system to [determine] calculate the vehicle's fuel efficiency, the analyzing comprising determining an amount of fuel consumed by the vehicle during an interval, determining a distance traveled by the vehicle during the interval, and calculating the vehicle's fuel efficiency from the amount of fuel consumed and the distance traveled during the interval.

4. (Once Amended) The method of claim [3] 1, [wherein the processing step] further [includes] including summing the transmitted parameter-related data for [at least] one of the plurality of vehicle parameters [properties from the data set] or a property derived [thereof] therefrom to yield a summed property.

5. (Once Amended) The method of claim 4, wherein the [processing step] analyzing further [includes] involves multiplying the summed property by a time interval.

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6. (Once Amended) The method of claim 4, wherein the [processing step] analyzing further [includes] involves multiplying [a property from the data set] the transmitted parameter-related data for said one of the plurality of vehicle parameter or a property derived therefrom by a time interval prior to summing.

7. (Once Amended) The method of claim [3] 4, wherein the [property] summed property is [at least] one of mass air flow, load, and load [times] multiplied by engine speed.

8. (Once Amended) The method of claim [3] 4, wherein the [property] summed property is [at least] one of mass air flow, load, and load [times] multiplied by engine speed multiplied by a time interval.

9. (Once Amended) The method of claim [3] 4, wherein the summing [step is performed] involves using [the] a microchip [comprised by] that is part of the wireless appliance.

10. (Once Amended) The method of claim 9, wherein the summing [step is performed] occurs prior to the transmitting [step].

11. (Once Amended) The method of claim 7, wherein the summed property [summed] is mass air flow, and the analyzing [step] further comprises processing the summed [mass air flow] property to determine an amount of fuel consumed.

12. (Once Amended) The method of claim 7, wherein the summed property [summed] is mass air flow multiplied by a time interval, and the analyzing [step] further comprises processing the summed [mass air flow] property [times] multiplied by a time interval to determine an amount of fuel consumed.

14. (Once Amended) The method of claim 13, wherein the analyzing [step] further comprises processing the integrated mass air flow to determine an amount of fuel consumed.

15. (Once Amended) The method of claim 14, wherein the analyzing [step] further [includes] comprises:

- i) dividing the integrated mass air flow by an air/fuel ratio; and
- ii) dividing the results from step i) by a density of fuel to determine an amount of fuel consumed.

16. The method of claim 15, wherein the analyzing [step] further comprises processing the amount of fuel consumed to determine fuel efficiency.

17. (Once Amended) The method of claim 16, wherein the analyzing [step] further comprises dividing the amount of fuel consumed by [a] the distance [driven] traveled to determine fuel efficiency.

18. (Once Amended) The method of claim 1, wherein the parameter-related data also describes [is] at least one of load, load [times] multiplied by engine speed, load multiplied by a time interval, or load [times] multiplied by engine speed multiplied by a time interval[, and the analyzing step further comprises processing the data to determine an amount of fuel consumed].

19. (Once Amended) The method of claim 18, wherein the load, load [times] multiplied by engine speed, or a product thereof is summed to generate an integrated value.

20. (Once Amended) The method of claim 19, wherein the analyzing [step] further comprises processing the integrated value to determine an amount of fuel consumed.

21. (Once Amended) The method of claim 20, wherein the analyzing [step] further comprises multiplying the integrated value [with] by a [linear] constant value to determine an integrated synthetic mass air flow.

22. (Once Amended) The method of claim 21, wherein the analyzing [step] further [includes] comprises:

i) dividing the integrated synthetic mass air flow by an air/fuel ratio; and  
ii) dividing the results from step i) by a density of fuel to determine an amount of fuel consumed.

23. (Once Amended) The method of claim 22, wherein the analyzing [step] further comprises processing the amount of fuel consumed to determine fuel efficiency.

24. (Once Amended) The method of claim 23, wherein the analyzing [step] further comprises dividing the amount of fuel consumed by a distance [driven] traveled to determine fuel efficiency.

25. (Once Amended) The method of claim 1, wherein the analysis [step] further comprises processing the vehicle's fuel efficiency to determine a secondary property of the vehicle.

27. (Once Amended) The method of claim 1, [wherein the method] further [includes] comprising comparing the vehicle's fuel efficiency to a pre-determined parameter.

28. (Once Amended) The method of claim 27, further comprising [a] sending [step] [wherein] the vehicle's fuel efficiency or a property derived from the fuel efficiency [is sent] to a user.

29. (Once Amended) The method of claim 28, wherein the sending [step further] comprises sending an electronic text, data, or voice message to a computer, cellular telephone, or wireless device.

30. (Once Amended) The method of claim 29, wherein the electronic text, data, or voice message describes the vehicle's fuel efficiency.

31. (Once Amended) The method of claim 1, further [including the step of] comprising displaying the data or a property calculated therefrom on a web site.

32. (Once Amended) The method of claim 1, further [including the step of] comprising displaying fuel efficiency on a web site.

33. (Once Amended) The method of claim 1, wherein the transferring [step further includes] involves serially transferring the data through an OBD-II connector or equivalent thereof in the vehicle to the wireless appliance.

34. (Once Amended) A method for characterizing a vehicle's tire pressure comprising [the steps of]:

generating parameter-related data from the vehicle that [comprises] describes at least one of [the following] a plurality of vehicle parameters including: vehicle speed, fuel level, engine speed, load, mass air flow, manifold air pressure, odometer reading;

transferring the parameter-related data to a wireless appliance comprising[:

i) a microprocessor, and

ii)] a wireless transmitter [in electrical contact with the microprocessor];

transmitting [a] the parameter-related data [packet comprising the data and/or properties calculated from the data] with the wireless transmitter over an airlink to a host computer system;

analyzing the transmitted parameter-related data with the host computer system to [determine] calculate the vehicle's fuel efficiency, the analyzing comprising determining an amount of fuel consumed by the vehicle during an interval, determining a distance traveled by the vehicle during the interval, and calculating the vehicle's fuel efficiency by processing both the fuel consumed and the distance traveled during the interval; and

processing the vehicle's fuel efficiency to estimate a tire pressure value.

35. (Once Amended) A method for characterizing a vehicle's fuel-injection system comprising [the steps of]:

generating parameter-related data from the vehicle that [comprises] describes at least one of [the following] a plurality of vehicle parameters including: vehicle speed, fuel level, engine speed, load, mass air flow, manifold air pressure, odometer reading;

transferring the parameter-related data to a wireless appliance comprising[:

i) a microprocessor, and

ii)] a wireless transmitter [in electrical contact with the microprocessor];

transmitting [a] the parameter-related data [packet comprising the data and/or properties calculated from the data] with the wireless transmitter over an airlink to a host computer system;

analyzing the transmitted parameter-related data with the host computer system to [determine] calculate the vehicle's fuel efficiency, the analyzing comprising determining an amount of fuel consumed by the vehicle during an interval, determining a distance traveled by the vehicle during the interval, and calculating the vehicle's fuel efficiency by processing both the fuel consumed and the distance traveled during the interval; and

processing the vehicle's fuel efficiency to characterize the vehicle's fuel-injection system.

36. (Once Amended) A method for characterizing [a] an amount of fuel consumed by a vehicle comprising [the steps of]:

generating parameter-related data from the vehicle that [comprises] describes at least one of [the following] a plurality of vehicle parameters including: [vehicle speed, fuel level,] engine speed, load, mass air flow[, manifold air pressure];

transferring the parameter-related data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

integrating the parameter-related data over time with the microprocessor to generate integrated data;

transmitting [a] the integrated data [packet comprising the data and/or properties calculated from the data] with the wireless transmitter over an airlink to a host computer system; and

analyzing the transmitted integrated data with the host computer system to determine the amount of fuel consumed by a vehicle.

37. (Once Amended) A method for characterizing a vehicle's fuel efficiency comprising [the steps of]:

generating data from the vehicle;

transferring the data to a wireless appliance comprising[:

i) a microprocessor, and

ii)] a wireless transmitter [in electrical contact with the microprocessor];

transmitting a data packet comprising the data [and/or properties calculated from the data] with the wireless transmitter over an airlink to a host computer system; and

analyzing the transmitted data with the host computer system to determine the vehicle's fuel efficiency, the analyzing comprising determining an amount of fuel consumed by the vehicle during an interval, determining a distance traveled by the vehicle during the interval, and calculating the vehicle's fuel efficiency from the fuel consumed and the distance traveled during the interval.

38. (Once Amended) A method for characterizing the amount of fuel consumed by a vehicle comprising [the steps of]:

generating data from the vehicle;

transferring the data to a wireless appliance comprising:

i) a microprocessor, and

ii) a wireless transmitter in electrical contact with the microprocessor;

integrating the data over time with the microprocessor to generate integrated data;

transmitting [a] the integrated data [packet comprising the data and/or properties calculated from the data] with the wireless transmitter over an airlink to a host computer system; and

analyzing the transmitted integrated data with the host computer system to determine the amount of fuel consumed by the vehicle.